

# Notice of Allowability

Application No.

10/614,238

Examiner

Alan S Chen

Applicant(s)

KOISHI, TAKAHIRO

Art Unit

2182

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 07/08/2003.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 08 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 1/30/04, 10/3/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**SUPERVISOR EXAMINER**  
**TECHNOLOGY CENTER 2100**

***Allowable Subject Matter***

1. Claims 1-10 are allowed.

The following is the statement of reasons for the indication of allowable subject matter: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, a system or method comprising at least on main processor, a sub processor connected to an I/O unit being operated by an operator; and a crossbar switch that transfers data between main and coprocessor, wherein the crossbar switch includes a diagnosis section which determines if a failure has occurred in main processor by using a command input from said I/O unit and given to said sub processor, the diagnosis section further capable of receiving and transmitting data to the main processor from and to said I/O unit via the coprocessor.

***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to fault detection using a coprocessor:

U.S. Pat. No. 5,675,807 to Iswandhi et al. (hereafter Iswandhi). Iswandhi discloses a fault-tolerant system enclosed in a sub-system (Fig. 1A), wherein the fault tolerance is achieved using two processors, each processor being in lock-step. However, the diagnosis section is not completed at the coprocessor, but rather, the checking is done between the processor and memory (Column 5, lines 5-25) not the direct checking between the main processor and sub processor as claimed by applicant.

U.S. Pat. No. 6,212,651 to Schieve et al. (hereafter Schieve). Schieve discloses a generalization of diagnostic coprocessors that can be used an indicator to report information about a computer system, e.g., intercepting a main CPU request and determining if it is faulty or not (Column 5, lines 43-67). However Schieve fails to disclose an input/output unit being operated by an operator that transmits data between the CPU and coprocessor or a crossbar switch and its connectivity between the main processor and sub processor

U.S. Pat. No. 6,233,702 to Horst et al. (hereafter Horst). Horst discloses a fault-tolerant system enclosed in a sub-system (Fig. 1A), wherein the fault tolerance is achieved using two processors, each processor being in lock-step. However, the diagnosis section is not completed at the coprocessor, but rather, the checking is done between the processor and memory (Column 5, lines 5-25).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASC

3/14/2005